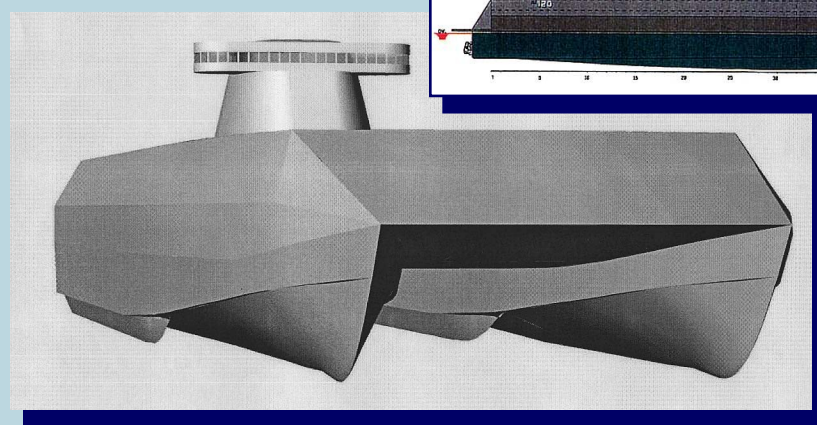
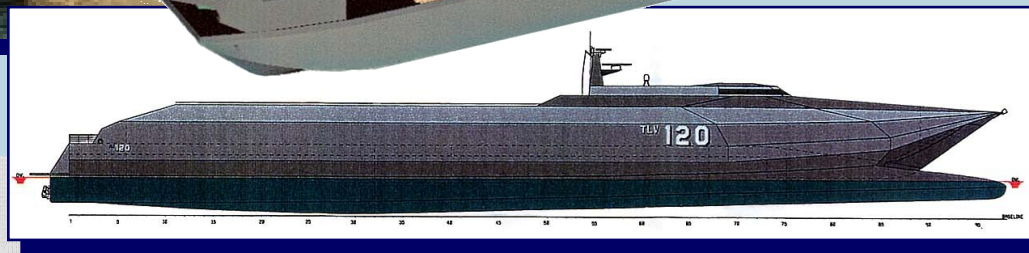
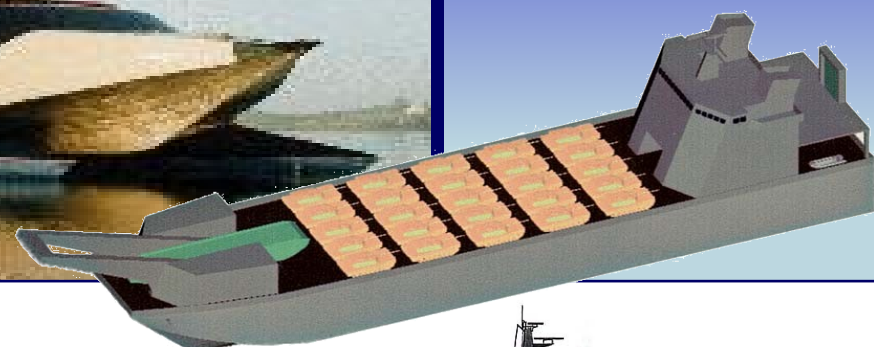




Theater Support Vessel

JLOTS R&D Symposium VI

29-31 January 2001

G.B. Singh
Chief, Research & Development
PM, Force Projection



TSV Outline -

- ◆ **Why TSV**
- ◆ **Initial TSV ORD Requirements**
- ◆ **Past Efforts**
- ◆ **Interested Parties**
- ◆ **Demonstrated Capabilities**
- ◆ **Changing Requirements**
- ◆ **ORD Recommendations**
- ◆ **Future Efforts**
- ◆ **Summary**



Why TSV

- ◆ **JLOTS & Intra-Theater Sea-lift Remain an Army Mission**
- ◆ **High Speed Intra-Theater Sea-lift is Valid Requirement**
 - Defense Science Board (Summer 98)
 - Army Science Board
 - Army Transformation War Game
- ◆ **Total Army Analysis 05 & 07 and MRS 05 Verified Shortage of Army Intra-Theater Sea-lift**
- ◆ **Significant Increase in Capability can be Realized for Interim and Objective Forces**



Operational Movement & Maneuver IBCT

Forward displacement of the *IBCT 400 NM using Intra-Theater Lift from Joint / Intermediate Staging Base

11 TSVs

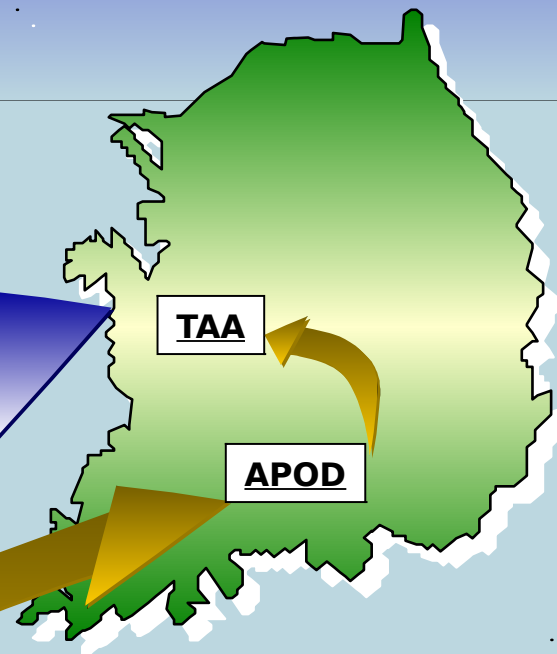
- 10 Hours Transit Time
- Total Fuel Consumed (one way)
220,942 gals
- Reduces demands on airframes
- Delivers Total Force to Forward Area

26 Legacy LSVs

- 40 Hours Transit Time
- Total Fuel Consumed (one way)
150,800 gals
- Requires 260% more crew than TSV
- Does Not Transport Troops

254 C-17 Sorties

- 1 Hour Transit Time per sortie
- Total Fuel Consumed (one way)
1,047,750 gals
- Requires additional troop transport



SPOE

APOE

ISB

*One IBCT = 12,751 ST

270,553 Ft²

3663 Troops



Initial ORD Requirements

◆ Block 1

- 4,726 NM Range with 1,000 ST at 24 Knots**
 - * 1,650 ST Max Capacity**
- 15 Foot Draft**
- 10,500 Ft² of Cargo Area**

◆ Block 2

- 8,700 NM Range with 1,000 ST at 24 Knots**
- 1,250 NM Range with 2,650 ST at 40 Knots**
- 15 Foot Draft**
- 15,000 Ft² of Cargo Area**

◆ Cost \$45 - \$65 M Each

◆ Intra-Theater Lift (Primary), JLOTS (Secondary)



Past Efforts -

- ◆ **CBD Announcement for Sources Sought**
- ◆ **Created TSV Website at TACOM**
 - <http://contracting.tacom.army.mil/majorsys/tlv.htm>
- ◆ **Cost and Sizing Study**
(in Conjunction with Naval Sea Systems Command)
 - **Direct Discussions with Industry**
 - **High Speed Commercial Ship Database**
 - **Literature Search**

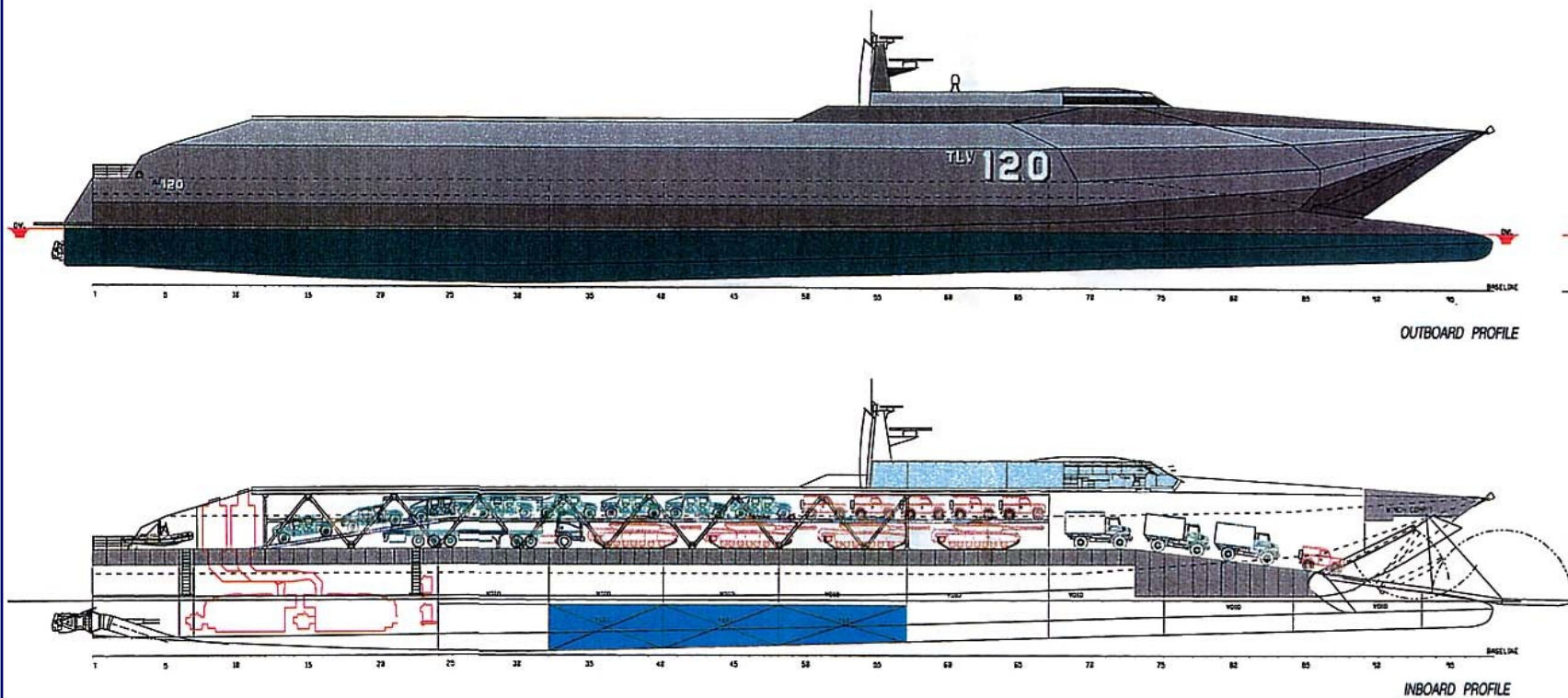


Interested Parties

- ◆ **Bollinger / Incat Team**
- ◆ **Austal Ships**
- ◆ **Marinette Marine**
- ◆ **Litton Industries/ Fincantieri Team**
- ◆ **Harley Shipbuilding / Vibtech Team**
- ◆ **Air Ride Craft, Inc. “Sea Coaster”**
- ◆ **John J. McMullen Associates “JJMA”**

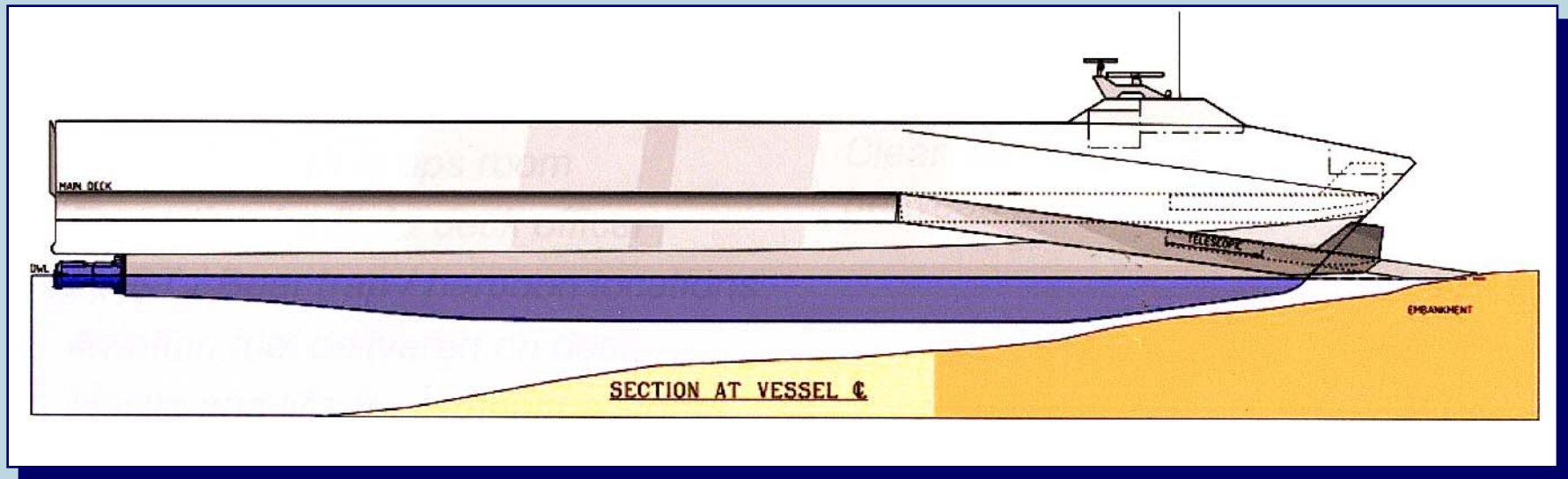


Pending Concepts



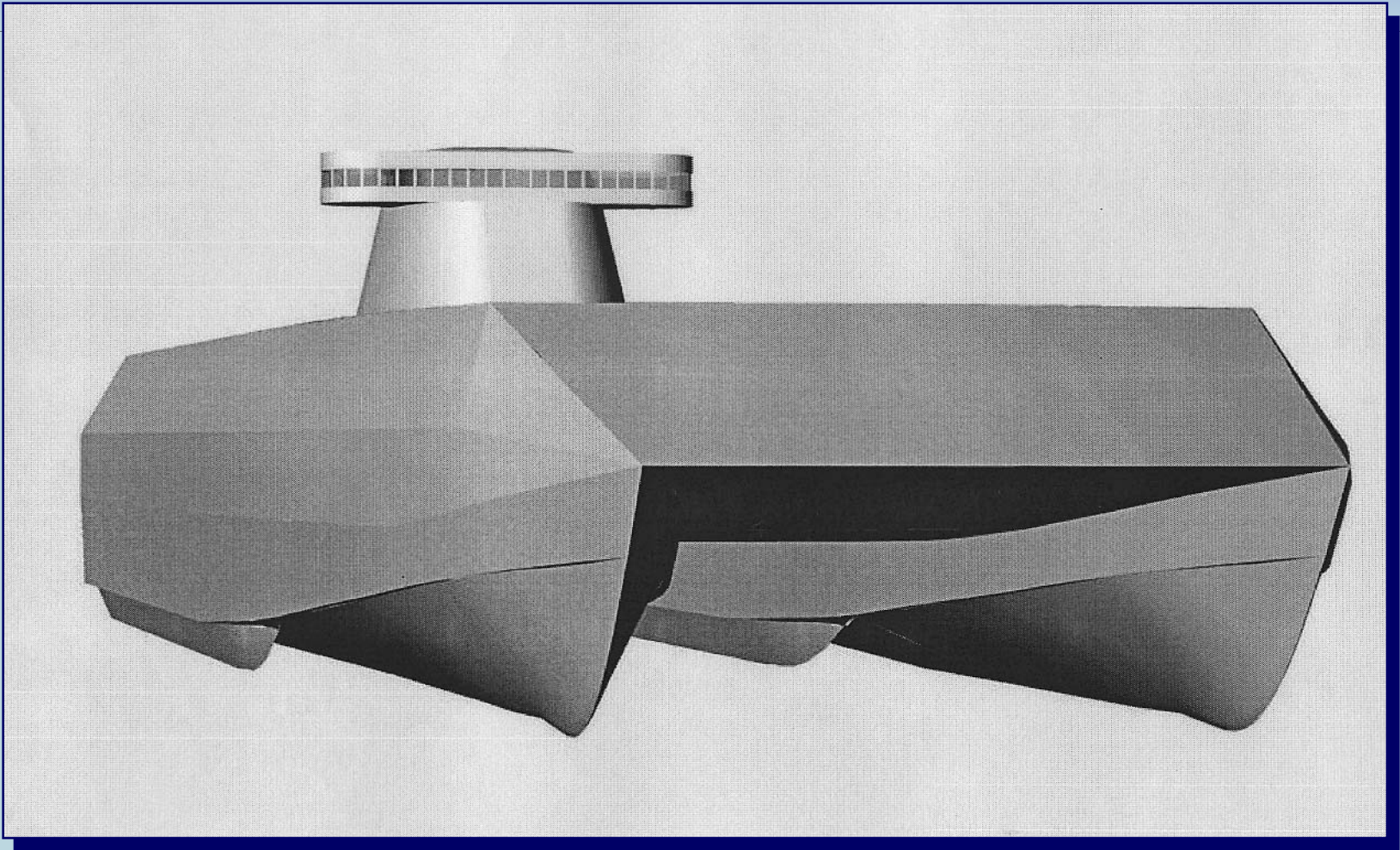


Concepts



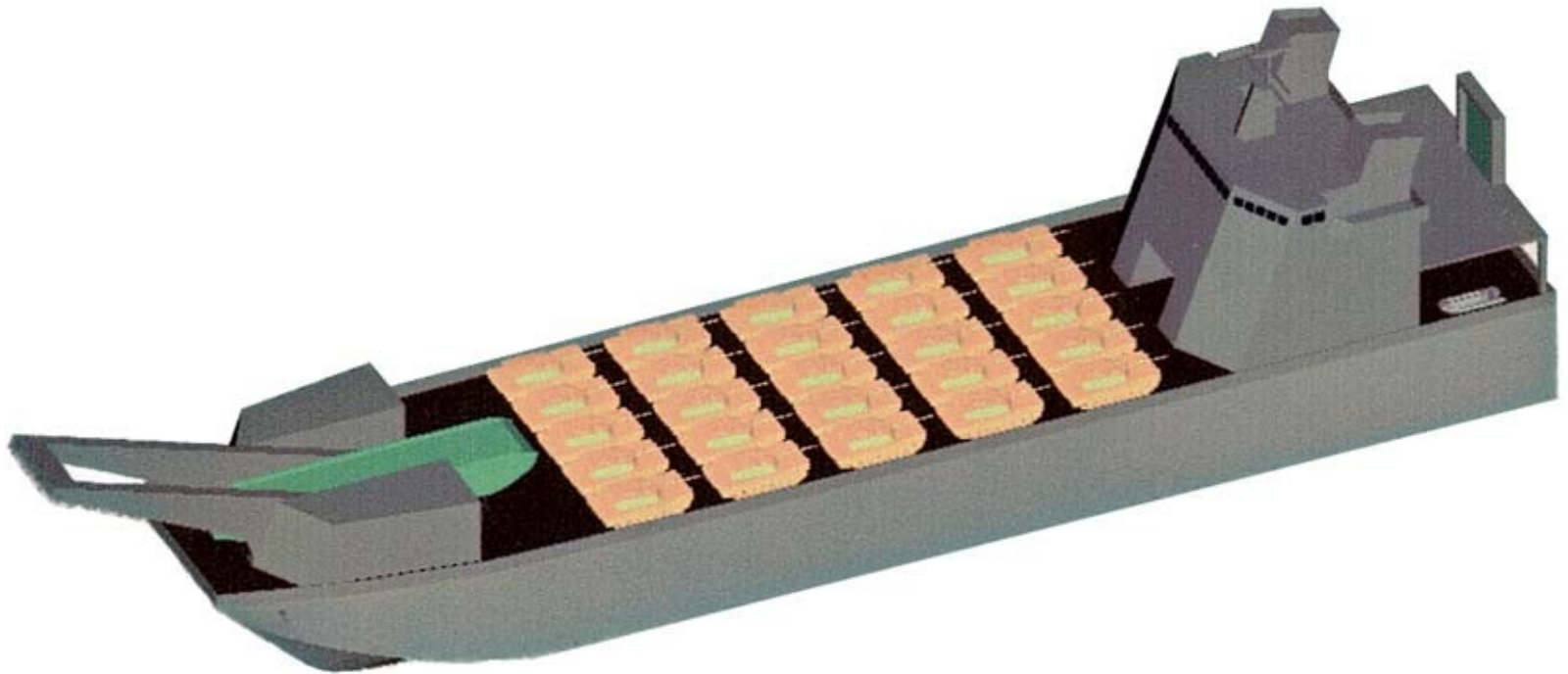


Concepts





Concepts





Demonstrated Capabilities

- **HMAS Jervis Bay** (INCAT #45) in support of operations in East Timor
 - 8 months in operation, 2-3 trips per week from Darwin, Australia to East Timor (1100 NM) without mission failure
 - 55,000 NM at 38+ knots
 - 12,500 personnel to and from AO
 - 500 vehicles to and from AO
- **Evaluation:**
 - Met or exceeded expectations
 - Very reliable due to redundancy of systems
 - No special sea-keeping issues
 - Modifications required for full military utility:
 - Stern ramps
 - Stronger Vehicle Decks
 - Larger Fuel Tanks for Extended Ranges
 - Use this type Vessel for intra-theater transport. Do not use for J/LOTS operations
- **Similar comments by the New Zealand operators of INCAT #050**



Changing Requirements

- ◆ **TLV to TSV**
- ◆ **No Longer Replacement for LSV**
- ◆ **Focus Solely on Intra-Theater Transport**
- ◆ **High Speed Upload and Discharge**
- ◆ **ISB Support and Transport**



ORD Recommendations

- ◆ **Concentrate on “Feeder” Mission**
 - **Existing Watercraft can Perform JLOTS**
- ◆ **1,250 ST of Cargo**
- ◆ **40+ Knots Speed**
- ◆ **4,720 NM Deployment Range with Minimal Cargo**
- ◆ **25,000+ Ft² of Cargo Area**
- ◆ **Basis for Recommendations:**
 - **Reduce Cost**
 - **Reduce Ship Size to Operate Out of More Ports**
 - **Use Off-the-Shelf Technology**
 - **Reduce R & D Costs and Time**
 - **Reduce Risk**



Future Efforts

- ◆ **Army: Short-Term Technical Evaluation - First Step In RDT&E Process**
 - **Determine Military Potential Of Large High Speed Ferry Technology** Emphasize Operational Movement & Maneuver and Sustainment Support
 - * Team with FORSCOM Units To Conduct Notional Intra-Theater Deployments
 - * Identify Operational Shortcomings and Future Training Requirements
 - **Test & Evaluation**
 - * Verify State-Of-The-Art & Establish Technical Baseline
 - * Model Future Military Modifications To Reduce Risk
- ◆ **NAVY Proposed ACTD:Two Year Lease - All Encompassing Effort**
 - **Determine Military Potential Of Large High Speed Ferry Technology** Emphasize Logistics and Special Ops, Explore Other Mission Roles
 - * Develop CONOPS based on all potential Mission Roles
 - * Team with other Services, Singapore and Australia
 - **Test & Evaluation**
 - * Verify State of The Art
 - * Evaluate National Defense Features To Be Installed During ACTD
 - * Conduct Series of Military Utility Assessments



Summary

◆ **Initial ORD Results**

- **Exceeds Existing Fast Ferries / Cargo Ships Capabilities**
- **Larger and More Expensive Ship than Anticipated**

◆ **ORD Needs to be Modified**

◆ **Current Commercial Technology Represents at Least 70% Solution**